ELSEVIER

Environmental and Experimental Botany 37 (1997) 211

Environmental and Experimental Botany

Contents of *Environmental and Experimental Botany*, Volume 37

VOL. 37 NO. 1 **MAY 1997**

Publisher's Note 1

The ratio UV-B/photosynthetically active radiation (PAR) determines the sensitivity of rye to increased UV-B radiation
G. Deckmyn, I. Impens (Wilrijk, Belgium) 3

Growth and photosynthetic responses of soybean to short-term cold temperature
Z. Wang, V. R. Reddy (Beltsville, MD, USA) and B. Quebedeaux (College Park, MD, USA) 13

The nature of interaction between aluminum and manganese on growth and metal accumulation in *Triticum aestivum*
L. M. Blair and G. J. Taylor (Edmonton, Alb., Canada) 25

Uptake of heavy metals by living and dead *Cladonia* Thalli
M. K. Chettri, T. Sawidis, G. A. Zachariadis and J. A. Stratis (Macedonia, Greece) 39

Aluminium toxicity in *Lemna Minor L.*: effects of citrate and kinetin
A. Severi (Modena, Italy) 53

Estimating the contribution of canopy components to direct light interception of apple trees using a laser-assisted scanning device
J. N. Wünsche (Motueka, New Zealand), A. N. Lakso, S. S. Denning and J. Barnard (Geneva, NY, USA) 63

VOL. 37 NOS. 2,3 **JUNE 1997**

Effects of elevated CO2 and N fertilization on fine root dynamics and fungal growth in seedling *Pinus ponderosa*
D. T. Tingey, D. L. Phillips, M. G. Johnson, M. J. Storm (Corvallis, OR, USA) and J. T. Ball (Reno, NV, USA) 73

Responses of field-grown soybean (cv. Essex) to elevated SO2 under two atmospheric CO2 concentrations
E. H. Lee, R. C. Pausch, R. A. Rowland (Beltsville, MD, USA) C. L. Mulchi and B. F. T. Rudorff (College Park, MD, USA) 85

Lead (Pb) uptake and its effects on membrane integrity and chlorophyll fluorescence in different lichen species
C. Branquinho, C. Maguas, F. Catarino (Lisboa, Portugal) and D. H. Brown (Bristol, UK) 95

A method for the in situ measurement of fine root gas exchange of forest trees
Z. Rakonczay, J. R. Seiler (Blacksburg, VA, USA) and L. J. Samuelson (Auburn, AL, USA) 107

Changes in water relations for leaves exposed to a climate-warming manipulation in the Rocky Mountains of Colorado
M. E. Loik (San Bernardino, CA, USA) and J. Harte (Berkeley, CA, USA) 115

Changes in thylakoid protein patterns and antioxidant levels in two wheat cultivars with different sensitivity to sulphur dioxide
A. Ranieri, A. Castagna, G. Lorenzini and G. F. Soldatini (Pisa, Italy) 125

Soil dressing with sulphur: does it reduce frost hardiness in spruce seedlings?
L. J. Sheppard (Midlothian, UK) 137

Effect of water-deficit stress and genotypes on pinitol occurrence in soybean plants
Changxin Guo and D. M. Oosterhuis (Fayetteville, AR, USA) 147

Effects of pH on growth, photosynthesis, respiration, and copper tolerance of three *Scenedesmus* strains
C. Nalewajko, M. Olaveson (Toronto, Ont., Canada) and B. Colman (North York, Ont., Canada) 153

Carbon assimilation and biomass partitioning in *Avicennia germinans* and *Rhizophora mangle* seedlings in response to soil redox conditions
S. R. Pezeshki (Memphis, TN, USA), R. D. DeLaune (Baton Rouge, LA, USA) and J. F. Meeder (Miami, FL, USA) 161

Chemical element concentrations in four lichens on a transect entering Voyageurs National Park
J. P. Bennett (Madison, WI, USA) and C. M. Wetmore (St. Paul, MN, USA) 173

Effects of short-term dehydration and rehydration on photosynthesis and respiration by Antarctic bryophytes
M. C. Davey (Cambridge, UK) 187

Genotoxicity studies on the insecticide dursban in root meristem cells of *Crepis capillaris* L.
B. Dimitrov and P. Gadeva (Sofia, Bulgaria) 199